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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/752,502	01/08/2004	Gou Tsau Liang	LEE.003	5635
20987	7590	12/21/2005	EXAMINER	
VOLENTINE FRANCOS, & WHITT PLLC ONE FREEDOM SQUARE 11951 FREEDOM DRIVE SUITE 1260 RESTON, VA 20190			BREWSTER, WILLIAM M	
			ART UNIT	PAPER NUMBER
			2823	

DATE MAILED: 12/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

EX

<b>Office Action Summary</b>	<b>Application No.</b> 10/752,502	<b>Applicant(s)</b> LIANG, GOU TSAU	
	<b>Examiner</b> William M. Brewster	<b>Art Unit</b> 2823	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 November 2005.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-11 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1 and 3-11 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

Claim 9 is objected to because of the following informalities: lines 3-4, delete second "the". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2-6, 10, 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Nakashima et al., US Publication No. 2003/0160921 A1.

Nakashima anticipates a manufacturing method for a liquid crystal display panel having a high aperture ratio, comprising:

in fig. 1A, providing a transparent substrate, below 1, not labeled, p. 2, ¶ 35, with thin film transistors, bases 1, TFT formed therein, a periphery of the transparent substrate having an outer lead, also 1, GATE TERMINAL,

in fig. 1B, bonding area, formed by covering an insulation layer 2 over metal wires 1 at GATE TERMINAL, p. 3, ¶ 38;

forming a protection layer 8 over the thin film transistors of the transparent substrate and the outer lead bonding area, p. 4, ¶ 45-46;

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in fig. 1D, applying a photo-etching process, p. 5, ¶ 61-62, using a half-tone mask, in fig. 6, p. 5, ¶ 61-62, to the protection layer so as to form openings respectively above the thin film transistors and the outer lead bonding area, unlabelled, wherein the insulation layer 7 at the outer lead bonding area is exposed through the openings; and in fig. 1E, expanding the openings by further etching the protection layer and the insulation layer, p. 4, ¶ 47, so as to form via holes 9 contacting 1 and 6, exposing portions of the thin film transistors and the metal wires, p. 4, ¶ 48-49;

limitations from claim 3, the manufacturing method for a liquid crystal display panel having a high aperture ratio of claim 1, further comprising:  
forming a transparent conductive layer 9 on the protection layer and inside the via holes so as to electrically contact the thin film transistors, p. 4, ¶ 48-49;

limitations from claim 4, the manufacturing method for a liquid crystal display panel having a high aperture ratio of claim 1, wherein the thin film transistors are transistors having an etching stop structure, portion of 7, p. 4, ¶ 46;

limitations from claim 5, the manufacturing method for a liquid crystal display panel having a high aperture ratio of claim 1, in fig. 1E, wherein the thin film transistors are transistors having a back-channel etching structure, wherein the insulation layer subsumes the etch-stop, p. 4, ¶ 45;

limitations from claim 6, the manufacturing method for a liquid crystal display panel having a high aperture ratio of claim 1, in fig. 1E, wherein the exposed portions of the metal wires 1 are outer lead bonding pads, GATE TERMINAL;

limitations from claim 10, the manufacturing method for a liquid crystal display panel having a high aperture ratio of claim 1, further comprising interposing a silicon nitride layer, lower level of 7 between the insulation layer and the protection layer, p. 4, ¶ 45;

limitations from claim 11, the manufacturing method for liquid crystal display panels having a high aperture ratio of claim 1, in fig. 1E, wherein the protection layer is a photoresist layer, not shown, part of patterning process, p. 4, ¶ 46.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakashima as applied to claims 1, 2-6, 10, 11 above, and further in view of the Applicant's Admitted Prior Art of Record.

The AAPA teaches a manufacturing method for a liquid crystal display panel having a high aperture ratio, comprising: in the BACKGROUND OF THE INVENTION, application, p. 1, line 4 - p. 3, line 19; in fig. 1, providing a transparent substrate 11 with thin film transistors 121 formed therein, a periphery of the transparent substrate having an outer lead 122

bonding area 123 formed by covering an insulation layer 13 over metal wires;  
forming a protection layer 18 over the thin film transistors of the  
transparent substrate and the outer lead bonding area;  
applying a photo-etching process, p. 1, line 17 - p. 2, line 1, to the  
protection layer so as to form openings respectively above the thin film transistors, (not  
shown) wherein the first portion of the photo-etching forms the first portion of 125 and at  
the outer lead bonding area, wherein the insulation layer 124 at the outer lead  
bonding area is exposed through the openings; and  
expanding the openings by further etching the protection layer and the insulation  
layer, p. 1, line 17 - p. 2, line 1 so as to form via holes 124, 125 exposing portions of the  
thin film transistors and the metal wires, p. 1, line 5 - p. 3, line 19, wherein the second  
portion of the photo-etching process expands the openings (although the photo-etching  
is anisotropic, some portion of the sidewalls continues to be etched and expanded,  
though at a slower rate than vertically);

limitations from claim 7, the manufacturing method for a liquid crystal display  
panel having a high aperture ratio of claim 1, wherein the protection layer 18 is  
made from a transparent organic material, p. 2, line 22 - p. 3, line 1;

limitations from claim 8, the manufacturing method for a liquid crystal display  
panel having a high aperture ratio of claim 7, wherein the transparent organic  
material is acrylate, p. 2, line 22 - p. 3, line 1;

limitations from claim 9, the manufacturing method for liquid crystal display panel  
having a high aperture ratio of claim 1, further comprising sealing the liquid

crystal display panel by pasting a sealant on the of the insulation layer at the other lead bonding area, p. 1, lines 10-16.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to recognize that combining the AAPA's process with Nakashima's invention would have been beneficial because the sealant provides protection from external contamination.

### ***Response to Arguments***

Applicant's arguments with respect to all claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

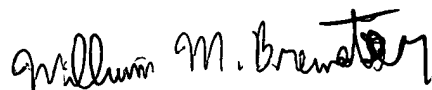
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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William M. Brewster whose telephone number is 571-272-1854. The examiner can normally be reached on Full Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith can be reached on 571-272-1907. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "William M. Brewster". The signature is stylized with a large, looped "W" and a cursive "Brewster".

15 December 2005

WB